



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,945	10/05/2005	Manfred Schorghuber	SCHORGHUBER ET AL 1 PCT	3616
25880	7590	05/13/2009	EXAMINER	
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			NGUYEN, HUNG D	
			ART UNIT	PAPER NUMBER
			3742	
			MAIL DATE	DELIVERY MODE
			05/13/2009 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/551,945

Applicant(s)

SCHORGHUBER ET AL.

Examiner

HUNG NGUYEN

Art Unit

4118

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/12/2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Ueyama et al. (US Pat 4,102,483).
3. Regarding claims 1 and 2, Taylor et al. discloses a buffer device for a welding wire 12 (Fig. 1), wherein a wire buffer storage 16 (Fig. 1) is arranged between a wire feeder 14 (Fig. 1) provided on the welding apparatus (Fig. 1), and a further wire feeder 18 (Fig. 1) arranged within the welding torch 20 (Fig. 1) and the welding wire 12 (Fig. 1) is conducted between the two wire feeders 14 and 18 (Fig. 1) within the wire core 98 (Fig. 2), where in the wire buffer storage 16 (Fig. 1) is designed in a manner that the wire core 98 (Fig. 2) is fixed on one end in the region of the welding apparatus, with its other end being freely movable (Fig. 3, Col. 6 Lines 38-47), wherein the wire core 98 (Fig. 2) together with the welding wire 12 (Fig. 1), at least over a partial region, is arranged to be freely movable within a wire guide hose 96 (Fig 2) having a substantially larger cross section of the wire core 98 (Fig 2), and wherein the storage volume of the

wire buffer storage 16 (Fig. 1) is defined by the cross section and the length of the substantially larger wire guide hose 96 (Fig. 2) except for a wire guide hose extending in a spiral shape manner. Ueyama et al. teaches that a wire guide hose will have less contact area, less friction resistance and less wire guide load if it extends in a spiral manner in the wire hose (Fig. 18 and Col. 4 line 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al. to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load.

4. Regarding claim 3, Taylor et al. discloses all the claimed features except for the inner diameter of the wire guide hose is at least 1.5 times larger than an outer diameter of the wire core. However, Taylor et al. shows the wire guide hose 96(Fig. 2) is larger than the wire core 98(Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al to modify the inner diameter of the wire guide hose is at least 1.5 times larger than an outer diameter of the wire core for the purpose of allowing sufficient space in the hose for the wire to freely move.

5. Regarding claim 4, Taylor et al. further discloses the wire guide hose 96 (Fig. 2) is arranged with in a hose package 16 (Fig. 1).

6. Regarding claim 5, Taylor et al. further discloses the wire guide hose 96 (Fig. 2) extends with in a hose package 16 (Fig. 1).

7. Regarding claim 15, Taylor et al. discloses a welding plant including a welding apparatus (Fig 1), a hose package 16 (Fig. 1) and a welding torch 20 (Fig. 1), wherein the hose package 16 (Fig. 1) connects the welding torch 20 (Fig. 1) with the welding apparatus (Fig. 1), and a device designed as a wire buffer storage 16 (Fig. 1) and arranged between two wire feeders 14 and 18 (Fig 1), wherein said wire buffer storage is 16 (Fig. 1) formed in the hose package 16 (Fig. 1); where in the wire buffer storage 16 (Fig. 1) is designed in a manner that the wire core 98 (Fig. 2) is fixed on one end in the region of the welding apparatus, with its other end being freely movable (Fig. 3, Col. 6 Lines 38-47), wherein the wire core 98 (Fig. 2) together with the welding wire 12 (Fig. 1), at least over a partial region, is arranged to be freely movable within a wire guide hose 96 (Fig 2) having a substantially larger cross section of the wire core 98 (Fig 2), and wherein the storage volume of the wire buffer storage 16 (Fig. 1) is defined by the cross section and the length of the substantially larger wire guide hose 96 (Fig. 2) except for a wire guide hose extending in a spiral shape manner (Fig. 18 and Col. 4 Line 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al. to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load.

8. Regarding claim 17, Taylor et al. further discloses a welding plant including a welding apparatus (Fig 1), a hose package 16 (Fig. 1) and a welding torch 20 (Fig. 1), wherein the hose package 16 (Fig. 1) connects the welding torch 20 (Fig. 1) with the welding apparatus (Fig. 1), and a device designed as a wire buffer storage 16 (Fig. 1)

and arranged between two wire feeders 14 and 18 (Fig 1), wherein said wire buffer storage 16 (Fig. 1) is formed in the hose package 16 (Fig. 1).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Ueyama et al. (US Pat 4,102,483) and further view of Tomiyasu et al. (US Pub. 2005/0150883).

10. Regarding claim 6, Taylor et al. discloses all the claimed features including lines (conduit, Col. 4 Lines 22-29) are arranged within the hose package, except for the lines arranged within the hose package in addition to the wire guide hose and the lines being arranged within the spirally extending wire guide hose. Ueyama et al., however, teaches a spirally curved welding wire in a wire guide bore of a conduit cable (Fig. 18, Col. 2 Lines 32-34). Tomiyasu et al. teaches arc welding cable where the conductors 5 (Fig. 1) are disposed in the wire hose. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the lines arranged within the hose package, (as opposed to next to, or outside the spirally extending wire guide), as taught by Ueyama et al., and additional lines disposed in the wire hose as taught by Tomiyasu, for the purpose of minimizing the diameter of the hose package so it is easier to handle.

11. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Ueyama et al. (US Pat 4,102,483) and further view of Bryce et al. (US Pat 4,187,411).

12. Regarding claim 7, the combined references disclose all the claimed features as set forth above except for the wire guide hose is arranged outside a hose package.

Bryce et al., however, teaches that a wire guide hose 4 (Fig. 1) is arranged outside a hose package 9 (Fig.1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combined references to arrange the wire guide hose outside the hose package, as taught by Bryce et al., for the purpose of reducing the noise from the wire core that may couple to the power cable that monitor the welding wire in the torch (Col. 7 Lines 56-63).

13. Regarding claim 10, the combined references disclose all the claimed features as set forth above except for detecting the quantity of the welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core. Bryce et al., however, teaches using a module 12 (Fig. 1) to monitor the stick-out distance 11 (Fig.1) of the welding wire 2 (Fig.1) beyond the tip 10 (Fig. 1) of the welding torch 1 (Fig.1, Col. 6 Lines 6-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combined references to monitor the welding wire, as taught by Bryce et al., for the purpose of determining how much welding wire is left.

14. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. in view of Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Parmelee et al. (US Pat. 4,731,518).

15. Regarding claim 8, the combined references disclose all the claimed features as set forth above except for the wire guide hose arranged around the hose package. Parmelee et al., however, teaches that welding cable C (Fig. 1) is arranged around the power source PC (Fig. 1). Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention was made to modify Taylor et al. to have the wire guide hose is arranged around the hose package, as taught by Parmelee, for the purpose of providing a simple construction that is economical to manufacture and easy to weld with (Col. 2 Lines 50-53).

16. Regarding claim 9, the combined references disclose all the claimed features as set forth above except for the wire guide hose arranged to helically extend about a carrier material independently of the hose package. Parmelee et al., however, teaches that welding cable C (carrier material, Fig. 1) is arranged the power source PC (Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al. to have the wire guide hose arranged to extend about a carrier material independently of the hose package, as taught by Parmelee, for the purpose of providing a simple construction that is economical to manufacture and easy to weld with (Col. 2 Lines 50-53).

17. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Ueyama et al. (US Pat 4,102,483) and further view of Strybel (US Pat 4,458,719).

18. Regarding claim 11, the combined references disclose all the claimed features as set forth above except for the wire buffer storage is comprised of a structural unit comprising the wire guide hose, on which a terminal element, particularly a quick lock is arranged on either end, and the wire core. Strybel, however teaches a quick coupler service fitting for quick connection between a first coupler adapter to a service hose (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at

the time of the invention was made to modify the combined references to replace the screws 92 (Fig. 3) and 154 (Fig. 5) with the quick coupler, as taught by Strybel, for the purpose of allowing faster replacement or interchanging of the wire core.

19. Regarding claim 12, the combined references disclose all the claimed features as set forth above except for the wire buffer storage is exchangeable without requiring any tool. Strybel, however teaches the quick coupler service fitting for quick connection between a first coupler adapter to a service hose (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combined references to replace the screws 92 (Fig. 3) and 154 (Fig. 5) by the quick coupler for changing the wire buffer storage without requiring any tools by pressing a finger manipulation portion 52 (Fig. 2), as taught by Strybel, for the purpose of easy removing or replacing of the wire buffer as needed.

20. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425), Ueyama et al. (US Pat 4,102,483) in view of Strybel (US Pat 4,458,719) and further view of Huismann et al. (US Pat. No. 7,165,707 B2).

21. Regarding claim 13, the combined references disclose all the claimed features as set forth above except for a guide element of the terminal element, particularly quick lock, projects into a sensor for detecting the longitudinal movement of the wire core. Strybel already teaches the quick coupler and Huismann et al. teaches a sensor for detecting the longitudinal movement of the wire core (Col. 6, Lines 54-62) to monitor the wire core movement. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combined references to

replace the screws with the quick coupler for faster replacement or interchange, as taught by Strybel, and to include the sensor for detecting the longitudinal movement of the wire core (Col. 6, Lines 54-62) as taught by Huisman et al, for the purpose of providing a suitable sensor that can be used to control the wire feed motor with more precision.

22. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Ueyama et al. (US Pat 4,102,483) and further view of G. Savard et al. (US Pat 2,964,612).

23. Regarding claim 14, the combined references discloses all the claimed features as set forth above except for the wire guide hose is preformed in a spiral-shaped manner. G. Savard, however, teaches the electrodes made from two to three bare-surfaced wires twisted together in a spiral (Fig. 1- 4 and 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al. to have the wire hose is preformed in a spiral-shaped manner, as taught by G. Savard et al. for the purpose of allowing faster continuous electrode fed than compared to a stick electrode (Col. 4 Lines 50-53).

Response to Arguments

24. Applicant's amendments have overcome the 112 (2nd paragraph) rejections from the previous Office Action.

25. Applicant's arguments filed 02/12/2009 have been fully considered but they are not persuasive.

Applicant argues on page 16 of the Remarks that Taylor et al. fails to disclose or suggest a welding wire buffer as recited in Applicants' claim 1 as amended, which enables the storage of small amounts of welding wire. This is not persuasive. Taylor et al. discloses substantial all features of the claimed invent as disclosed above, except for except for a wire guide hose extending in a spiral shape manner. Ueyama et al. teaches that a wire guide hose will have less contact area, less friction resistance and less wire guide load if it extends in a spiral manner in the wire hose (Fig. 18 and Col. 4, Lines 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al. to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load. Further, Ueyama et al. reference is only cited for the teaching of spiral and also Taylor et al. and Ueyama are both in the welding technical. Therefore, they consider in related art and are good to combine.

Applicant further argues on page 17 that the elongate cross section of the wire guide bore of the conduit cable in the form of the sine cure instead of the spiral-shaped manner. It is noted in Ueyama et al. the conduit cable is fed in a spiral fashion along the inner surface of the wire guide bore (Col. 4, Lines 22-35).

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 7:30AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/
Examiner, Art Unit 3742

/TU B HOANG/
Supervisory Patent Examiner, Art Unit 3742